UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/976,885	10/10/2001	William R. Bush	6502.0357-00	2176

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EXAMINER
DADA, BEEMNET W

ART UNIT	PAPER NUMBER
2135	

DATE MAILED: 07/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/976,885	BUSH ET AL.
	Examiner	Art Unit	
	Beemnet W. Dada	2135	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>*08 May 2006*</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-29* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1.   This office action is in reply to an amendment filed on May 08, 2006. Claims 1-29 are

pending.

Response to Arguments

2.   Applicant's arguments filed 05/08/2006 have been fully considered but they are not

persuasive. Applicant argues that, Reference V only teaches permissions to access resources

and not permissions to access a "first trusted class", and therefore Reference V fails to teach

controlling access to a first trusted class by untrusted class or a second trusted class based

upon privilege information associated with the first trusted class. Examiner disagrees.

3.   Examiner would point out that the term 'class' in object oriented programming refers to

classes, objects, threads and processes [see also, specification page 6, paragraph 022]. In this

case, reference V teaches Domain-Based access Control, wherein classes, objects and threads

belong to a certain domain [see section 2.3, 1st paragraph]. Reference V further teaches

interaction between multiple domains, for example, application domain and system domain (see

page 5, section 2.4, paragraphs 3-5, where it states "...*where a system domain invokes a*

method from an application domain, such as when an AWT system code calls an applet's

paint method to display the applet, it is again crucial that at any time the effective access

rights are the same as current rights enabled in the application domain." Examiner would

point out that, a method/function in object-oriented programming is part of a class. In this case

invoking/calling a method/function from one domain to another domain by controlling access

rights, means, access to the class itself by another class in a different domain. Examiner asserts

the art on record teaches the claim limitations and therefore respectfully maintains the rejection.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

5.   Claims 1-6, 10-21 and 25-29 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Gong WO 99/30217 in view of Gong et al. "Going Beyond the Sandbox: An

Overview of the New Security Architecture in the Java Development Kit 1.2" (hereinafter

Reference V).

6.   As per claim 1 and 25, Gong teaches a method for providing security, comprising:

separating a plurality of classes into at least a first trusted class and an untrusted class

[page 3, lines 7-17 and page 8, line 37- page 9, line 24];

associating privilege information (i.e., permissions) with the first trusted class [page 3,

lines 7-24]; and

Gong further teaches an access control method wherein an instance of a class within

one domain accessing another instance of a different class within a different domain (i.e., object

a invokes b which invokes c, see page 13, lines 17-27, figure 6 and access controller figs 2 and

5).

Gong does not explicitly teache controlling access to the first trusted class by the

untrusted class or a second trusted class based upon the privilege information associating with

the first trusted class. However, within the same field of endeavor Reference V teaches an

access control method including controlling access to a first trusted class by an untrusted class

or a second trusted class based upon privilege information associating with the first trusted

class [see page 5 and 6, section 2.4 Domain-Based Access Control]. It would have been

obvious to one having ordinary skill in the art at the time of applicant's invention to employ the

teachings of Reference V within the system of Gong in order to further control access between

different classes thereby enhancing security of the system.

7.   As per claim 18, Gong teaches a secure virtual machine instruction processor

comprising:

        a first memory space for storing an untrusted class and a second memory space for

storing a first trusted class [page 13, lines 1-9, page 3, lines 7-17 and page 8, line 37- page 9,

line 24];

        a privilege manager for managing privilege information associated with the first trusted

class [page 3, lines 7-24]; and

        Gong further teaches an access control method wherein an instance of a class within

one domain accessing another instance of a different class within a different domain (i.e., object

a invokes b which invokes c, see page 13, lines 17-27, figure 6 and access controller figs 2 and

5).

        Gong does not explicitly teaches controlling access to the first trusted class by the

untrusted class or a second trusted class based upon the privilege information associating with

the first trusted class. However, within the same field of endeavor Reference V teaches an

access control method including controlling access to a first trusted class by the untrusted class

or a second trusted class based upon privilege information associating with the first trusted

class [see page 5 and 6, section 2.4 Domain-Based Access Control]. It would have been obvious to one having ordinary skill in the art at the time of applicant's invention to employ the teachings of Reference V within the system of Gong in order to further control access between different classes thereby enhancing security of the system.

8.   As per claims 2, 3, 20, 21, 26 and 27, Reference V further teaches granting/refusing privileges based upon permissive attribute of privilege information and the step of controlling access depends upon the privilege [see page 5 and 6, section 2.4 Domain-Based Access Control].

9.   As per claim 4, Reference V further teaches permitting access to the trusted class in a predetermined manner if the privilege permits the access [see page 5 and 6, section 2.4 Domain-Based Access Control].

10.   As per claim 5, Reference V further teaches denying the access in a predetermined manner if the access to the first trusted class in the predefined manner is contrary to the privilege [see page 5 and 6, section 2.4 Domain-Based Access Control].

11.   As per claim 6, Reference V further teaches wherein the privilege allows at least one of the group of creating a subclass of the first trusted class, creating a new instance of the first trusted class, allowing the untrusted class or second trusted class to invoke a method of the first trusted class, and allowing the untrusted class or second trusted class access to trusted data of the first trusted class [see page 5 and 6, section 2.4 Domain-Based Access Control].

12.   As per claim 10, Gong further teaches allocating a separate memory space for the first

class and untrusted class [page 13, lines 1-9, page 3, lines 7-17 and page 8, line 37- page 9,

line 24].

13.   As per claims 11-14 and 19, Gong further teaches the privilege information further

comprises a plurality of permissive attributes [see page 9, line28 – page 10 line 22].

14.   AS per claims 15-17 and 28-29 Reference V further teaches controlling access to the

first class including detecting when a request for a trusted class peration is made by the

untrusted class or second trusted class determining that the trusted class operation is

authorized based on the privilege information associated with the first trusted class and allowing

access to the first trusted class according to the trusted class operation [see page 5 and 6,

section 2.4 Domain-Based Access Control].

15.   Claims 7-9 and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Gong WO 99/30217 in view of Reference V as applied above and further in view of Papa et al.

(Ref U).

16.   As per claims 7-9 and 22-24 Gong-Reference V teaches the method as applied to claims

1 and 18 above. Gong-Reference V is silent on separating classes further comprising

associating a package with a trusted class. However, Papa et al teaches associating a package

with a trusted class, wherein associating the package further a comprises encapsulating the first

trusted class within the package [see page 67-68, sections 2.1, java package protection model,

2.2 authorization model]. It would have been obvious to one having ordinary skill in the art at the

time of applicant's invention to employ the teachings of Papa et al within the system of Gong-

Reference V thereby allowing associating a package with a trusted class and providing

protection within a package level.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy

as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date

of this final action.

Any inquiry concerning this communication or earlier communications from the examiner

should be directed to Beemnet W. Dada whose telephone number is (571) 272-3847. The

examiner can normally be reached on Monday - Friday (9:00 am - 5:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Kim Y. Vu can be reached on (571) 272-3859. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private

PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you

would like assistance from a USPTO Customer Service Representative or access to the

automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Beemnet Dada

July 17, 2006   HOSUK SONG
                                                                                        PRIMARY EXAMINER